

Title (en)  
TUBULAR DRIVE DEVICE

Title (de)  
ROHRFÖRMIGE ANTRIEBSEINRICHTUNG

Title (fr)  
DISPOSITIF D'ENTRAÎNEMENT TUBULAIRE

Publication  
**EP 3203005 B1 20190807 (DE)**

Application  
**EP 17154183 A 20170201**

Priority  
DE 102016201772 A 20160205

Abstract (en)  
[origin: US2017226789A1] Tubular drive apparatus for a panel of a vehicle, preferably a tailgate or door, comprising two tubes which are inserted into one another in a telescopic manner, the free ends of which are each hinged to the panel of the vehicle and to the vehicle itself, the tubes being capable of being separated from one another and brought together by means of a spindle which is driven by an electric motor and comprises a spindle nut arranged thereon, in order to thus open and close the panel, the electric motor, the spindle, the spindle nut and an electronic circuit board comprising sensor elements being arranged within the tubular drive apparatus, and a power electronics unit for actuating the electric motor also being arranged on the electronic circuit board.

IPC 8 full level  
**E05F 15/622** (2015.01)

CPC (source: CN EP US)  
**E05F 15/622** (2015.01 - CN EP US); **F16H 25/20** (2013.01 - US); **E05Y 2201/434** (2013.01 - EP US); **E05Y 2201/70** (2013.01 - US); **E05Y 2201/702** (2013.01 - US); **E05Y 2400/00** (2013.01 - EP US); **E05Y 2400/44** (2013.01 - EP US); **E05Y 2400/65** (2013.01 - EP US); **E05Y 2900/532** (2013.01 - US); **E05Y 2900/546** (2013.01 - EP US); **F16H 2025/2031** (2013.01 - US); **F16H 2025/2075** (2013.01 - US)

Citation (opposition)  
Opponent : Brose Fahrzeugteile SE & Co.  
• DE 102008030247 A1 20100107 - STABILUS GMBH [DE]  
• DE 102005059051 A1 20070614 - KIEKERT AG [DE]  
• ANONYMOUS: "Brushless DC Motor with Speed Control, TI Design", TEXAS INSTRUMENTS, 2014, pages 1 - 13, XP055698892, Retrieved from the Internet <URL:http://www.ti.com/lit/ug/tidu311/tidu311.pdf?ts=1590582212553>  
• ANONYMOUS: "DRV8308 Brushless DC Motor Controller", TEXAS INSTRUMENTS - DATASHEET, November 2017 (2017-11-01), XP055698894, Retrieved from the Internet <URL:http://www.ti.com/lit/ds/symlink/drv8308.pdf?ts=1590582483903>

Cited by  
US11984771B2; US11837926B2; US12088160B2

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)  
**EP 3203005 A1 20170809; EP 3203005 B1 20190807**; CN 107044240 A 20170815; CN 107044240 B 20210622;  
DE 102016201772 A1 20170810; JP 2017160772 A 20170914; JP 7085797 B2 20220617; US 10214952 B2 20190226;  
US 2017226789 A1 20170810

DOCDB simple family (application)  
**EP 17154183 A 20170201**; CN 201710064304 A 20170204; DE 102016201772 A 20160205; JP 2017017555 A 20170202;  
US 201715423966 A 20170203